

In the Claims:

Please cancel claims 5-9, 19 and 54 without prejudice or disclaimer.

Please amend the other claims as follows:

1. (Currently Amended) An isolated protein construct comprising a donor-strand complemented- (dsc-) pilus protein ~~portion~~ linked to an effector ~~portion~~ wherein said donor-strand complemented- (dsc-) pilus protein ~~portion~~ comprises a single donor-strand complemented (dsc-) pilus protein, including active fragments thereof, wherein said active fragment is structurally-stabilized by the presence of a donor strand and wherein said donor-strand complemented- (dsc-) pilus protein ~~portion~~ is not attached to a bacterial cell and wherein said effector ~~portion~~ does not comprise all or part of either a bacterial pilus-protein or bacterial chaperone.

2. (Original) The isolated protein construct of claim 1 wherein said pilus-protein is a protein that in living bacterial cells acts as a substrate for assembly into a bacterial surface structure by the usher-chaperone pathway.

3. (Original) The isolated protein construct of claim 1 wherein said pilus-protein is a pilin selected from the group consisting of FimH, FimA, FimG, FimF, PapG, PapA, PapE, PapF, and PapK.

4. (Original) The isolated protein construct of claim 1 wherein said pilus-protein is an adhesin selected from the group consisting of FimH and PapG.

5 - 9. (Canceled)

10. (Currently Amended) The isolated protein construct of claim 1 wherein said ~~pilus-protein-portion and said effector portion are linked by a~~ is attached to the dsc-pilus protein by the donor strand (ds).

11. (Currently Amended) The isolated protein construct of claim 10 wherein said donor strand is covalently linked to at least one of said pilus-protein ~~portion~~ or said effector ~~portion~~.

12. (Currently Amended) The isolated protein construct of claim 11 wherein said donor strand is covalently linked to said pilus-protein ~~portion~~ but not to said effector ~~portion~~.

13. (Currently Amended) The isolated protein construct of claim 11 wherein said donor strand is covalently linked to said effector ~~portion~~ but not to said pilus-protein ~~portion~~.

14. (Currently Amended) The isolated protein construct of claim 11 wherein said donor strand is covalently linked to both said pilus-protein ~~portion~~ and said effector ~~portion~~.

15. (Currently Amended) The isolated protein construct of claim 11 wherein said donor strand is non-covalently linked to said pilus-protein ~~portion~~ and to said effector ~~portion~~.

16. (Original) The isolated protein construct of claim 10 wherein said pilus-protein is a protein that in living bacterial cells acts as a substrate for assembly into a bacterial surface structure by the usher-chaperone pathway.

17. (Original) The isolated protein construct of claim 10 wherein said pilus-protein is a pilin selected from the group consisting of FimH, FimA, FimG, FimF, PapG, PapA, PapE, PapF, and PapK.

18. (Original) The isolated protein construct of claim 10 wherein said pilus-protein is an adhesin selected from the group consisting of FimH and PapG.

19. (Canceled)

20. (Withdrawn) An antibody specific for the protein construct of claim 1.

21. (Withdrawn) A process for preparing the protein construct of claim 1 comprising linking a pilus protein moiety, or active fragment moiety thereof, to an effector moiety via a bridging structure comprising a donor strand.

22. (Withdrawn) The process of claim 21 wherein said donor strand is covalently linked to said pilus-protein or to said active portion of said pilus-protein.

23. (Withdrawn) The process of claim 21 wherein said donor strand is covalently linked to said effector moiety and non-covalently linked to said pilus protein moiety or active fragment moiety thereof.

24. (Withdrawn) The process of claim 21 wherein said pilus-protein moiety, or active fragment moiety, is an N-terminal deleted pilus-protein moiety or active fragment moiety.

25. (Currently Amended) The isolated protein construct of claim 1 wherein said effector ~~portion~~ is an immunoglobulin.

26. (Original) The isolated protein construct of claim 25 wherein said immunoglobulin comprises at least one heavy and one light chain variable region of an antibody.

27. (Original) The isolated protein construct of claim 25 wherein said immunoglobulin is an antibody.

28. (Original) The isolated protein construct of claim 27 wherein said antibody has specificity for at least one antigenic determinant of a microorganism.

29. (Original) The isolated protein construct of claim 28 wherein said microorganism is selected from the group consisting of viruses, bacteria, fungi and protozoans.

30. (Original) The isolated protein construct of claim 29 wherein said microorganism is a bacterium.

31. (Original) The isolated protein construct of claim 30 wherein said bacterium is *Escherichia coli*.

32. (Original) A composition comprising the protein construct of claim 25 wherein said protein is suspended in a pharmacologically acceptable carrier.

33. (Withdrawn) A process for treating a disease comprising administering to a patient so infected a therapeutically effective amount of the composition of claim 32.

34. (Withdrawn) The process of claim 33 wherein said disease is a urinary tract infection.

35. (Withdrawn) The process of claim 34 wherein said urinary tract infection is caused by a bacterium.

36. (Withdrawn) The process of claim 35 wherein said bacterium is *Escherichia coli*.

37. (Withdrawn) An isolated protein construct comprising a pilus protein portion linked to an effector portion wherein said pilus protein portion comprises a single pilus protein, including active fragments thereof, wherein said pilus protein portion is not attached to a bacterial cell and wherein said effector portion comprises a pilus-protein, including active fragments thereof, and wherein said protein construct does not comprise a pilus.

38. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein is a protein that in living bacterial cells acts as a substrate for assembly into a bacterial surface structure by the usher-chaperone pathway.

39. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein is a pilin selected from the group consisting of FimH, FimA, FimG, FimF, PapG, PapA, PapE, PapF, and PapK.

40. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein is an adhesin selected from the group consisting of FimH and PapG.

41. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein portion is an active fragment of a pilus-protein.

42. (Withdrawn) The isolated protein construct of claim 37 wherein said active fragment of a pilus-protein is an N-terminal deleted pilus-protein.

43. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein portion comprises FimH and said effector portion comprises a complex of FimG and FimC.

44. (Withdrawn) The isolated protein construct of claim 37 wherein said pilus-protein portion comprises PapE and said effector portion comprises a complex of PapK and PapD.

45. (Withdrawn) The isolated protein construct of claim 44 wherein said PapE is N-terminal deleted PapE.

46. (Withdrawn) The protein construct of claim 37 wherein said pilus protein portion and said effector portion are part of a single polypeptide chain.

47. (Withdrawn) The isolated protein construct of claim 37 wherein said effector portion further comprises a donor strand.

48. (Withdrawn) A composition comprising a therapeutically effective amount of the protein construct of claim 37 suspended in a pharmacologically acceptable carrier.

49. (Withdrawn) A process for treating or preventing a disease comprising administering to a patient afflicted therewith or at risk thereof a therapeutically effective amount of the composition of claim 48.

50. (Withdrawn) The process of claim 49 wherein said disease is a urinary tract infection.

51. (Withdrawn) The process of claim 50 wherein said urinary tract infection is caused by a bacterium.

52. (Withdrawn) The process of claim 51 wherein said bacterium is *Escherichia coli*.

53. (Original) The isolated protein construct of claim 1 wherein said effector ~~portion~~ comprises an adjuvant.

54. (Original) A vaccine comprising a prophylactically effective amount of the protein construct of claim 53 suspended in a pharmacologically acceptable carrier.

55. (Withdrawn) A process for preventing a disease comprising administering to a patient so infected a therapeutically effective amount of the composition of claim 54.

56. (Withdrawn) The process of claim 55 wherein said disease is a urinary tract infection.

57. (Withdrawn) The process of claim 56 wherein said urinary tract infection is caused by a bacterium.

58. (Withdrawn) The process of claim 57 wherein said bacterium is *Escherichia coli*.

59. (Original) The protein construct of claim 1 wherein said effector ~~portion~~ comprises a chemotherapeutic agent.

60. (Withdrawn) The protein construct of claim 59 wherein said chemotherapeutic agent is an antimicrobial agent.

61. (Currently Amended) The ~~process~~ protein construct of claim 59 wherein said chemotherapeutic agent is an anticancer agent.

62. (Withdrawn) The protein construct of claim 1 wherein said effector portion comprises a cytoprotective agent.

63. (Withdrawn) The protein construct of claim 1 wherein said effector portion comprises an antibiotic.

64. (Currently Amended) The protein construct of claim 27 wherein said antibody is ~~vitaxin~~ VITAXIN®.

65. (Withdrawn) The protein construct of claim 27 wherein said antibody is MEDI-493.